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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/967,111	09/28/2001	Richard Francis Cormier	EMC01-11(01046)	8094

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EXAMINER

HA, THANH T

ART UNIT	PAPER NUMBER
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2194

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/967,111

Applicant(s)

CORMIER ET AL.

Examiner

Ha Thanh

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-35 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-35 are rejected under 35 U.S.C. 102(e) as being unpatentable over Young (U.S. Patent 6782531).
2. As to claim 1, Young teaches the invention as claim including a computer system, a method for managing services associated with a plurality of plug-in modules [abstract, lines 1-3], the method comprising the steps of:
 - obtaining identities of a plurality of plug-in modules [col. 6, lines 19-21];
 - based on queries to the plurality of plug-in modules, retrieving a dependency list indicating respective plug-in services provided by, and required by, each plug-in module identified in the identities of a plurality of plug-in modules [col. 2, lines 57-61];
 - calculating a plug-in initiation order based upon the dependency list
 - indicating

respective plug-in services provided by, and required by, each plug-in module [col. 2, lines 59-65];

initiating service operation of plug-in modules according to the plug-in initiation order, such that if a first plug-in module provides a service required by a second plug-in module, the first plug-in module is initiated such that the service provided by the first plug-in module is available to the second plug-in module when required by the second plug-in module [col. 8, lines 36-38].

3. As to claim 2, Young teaches wherein the step of obtaining identities of a plurality of plug-in modules includes the steps of:

receiving a list of services to be started within the computer system [col. 14, line 46];

determining, for each service in the list of services, a respective plug-in module definition that can provide that service [col. 14, lines 47-50]; and

placing the identity of each plug-in module definition determined in the step of

determining into the identities of the plurality of plug-in modules [col. 13, lines 50-53].

4. As to claim 3, Young teaches wherein the step of retrieving a dependency list indicating respective plug-in services provided by, and required by, each plug-in module comprises the steps of:

for each plug-in module identified in the identities of a plurality of plug-in modules, performing the steps of:

instantiating the plug-in module based upon a plug-in module definition associated with the identity of the plug-in module [col. 13, lines 53-54];

receiving a dependency response from the plug-in module, the dependency response indicating respective plug-in services provided by, and required by, the plug-in module [col. 13, lines 50-53]; and

storing identities of the respective plug-in services provided by, and required by, the plug-in module as identified in the dependency response in the dependency list [col. 13, line 50].

5. As to claim 4, Young teaches wherein the step of instantiating the plug-in module comprises the steps of:

obtaining plug-in initiation information corresponding to the plug-in module

definition associated with the identity of the plug-in module [col. 14, line 46];

instantiating the plug-in module based upon a plug-in module definition associated with the identity of the plug-in module [col. 14, lines 54-58]; and

passing the plug-in initiation information to the plug-in module for use by the plug-in module [col. 8, lines 31-32].

6. As to claim 5, Young teaches wherein the step of instantiating the plug-in module comprises the step of:

querying a dependency interface associated with the plug-in module with a dependency query to obtain the dependency response from the plug-in module [col. 13, line 61].

7. As to claim 6, Young teaches wherein the step of calculating a plug-in initiation order based upon the dependency list comprises the step of:

arranging a placement of each plug-in module identified in the dependency list within the plug-in initiation order such that plug-in modules not requiring services provided by other plug-in modules are placed earlier in the initiation order and such that plug-in modules requiring services provided by other plug-in modules are placed later in the initiation order [col. 14, lines 47-52].

8. As to claim 7, Young teaches wherein the step of arranging placement of each plug-in module identified in the dependency list within the plug-in initiation order comprises the steps of:

analyzing the dependency list indicating respective plug-in services provided by, and required by, each plug-in module to determine which plug-ins provide services relied upon by other plug-in modules [col. 13, lines 41-44]; and

creating, as the plug-in initiation order, at least one plug-in module dependency tree based on the step of analyzing, the at least one plug-in module dependency tree containing a hierarchical arrangement of nodes associated with respective plug-in modules, the hierarchical arrangement indicating the plug-in initiation order of the plug-in modules respectively associated with the nodes in the dependency tree [col. 13, lines 44-49].

9. As to claim 8, Young teaches wherein initiating service operation of plug-in modules according to the plug-in initiation order comprises:

traversing the at least one plug-in module dependency tree according to the

hierarchical arrangement of nodes and for each node encountered during the step of traversing, initiating service operation of the respective plug-in module associated with that node [col. 13, lines 53-59].

10. As to claim 9, Young teaches wherein the step of initiating service operation of plug-in modules includes:

forwarding, via a dependency available interface associated with a respective plug-in module, a list of initiated plug-in services of other plug-in modules that are currently available for use by the respective plug-in module [col. 8, lines 31-38].

11. As to claim 10, Young teaches wherein the step of initiating service operation of plug-in modules according to the plug-in initiation order comprises performing, for each respective plug-in module in the plug-in initiation order, the steps of:

determining, from a published list of services available by initiated plug-in

modules, an identity of each initiated plug-in service required by the respective plug-in module [col. 7, lines 59-60];

forwarding to the respective plug-in module, via a dependency available interface associated with the respective plug-in module, the identity of each initiated plug-in service required by the respective plug-in module [col. 8, lines 31-32];

receiving a list of services initiated by the respective plug-in module [col. 8, lines 15-16]; and

adding the list of services provided by the respective plug-in module to the published list of services [col. 8, lines 17-18].

12. As to claim 11, Young teaches wherein the step of initiating service operation of plug-in modules according to the plug-in initiation order operates such that if the second plug-in module requires a service provided by the first plug-in module, the second plug-in module is initiated

such that the service provided by the first plug-in module is available to the second plug-in module when required [col. 14, lines 23-37].

13. As to claim 12, Young teaches wherein the first plug-in module is initiated via the step of initiating service operation of plug-in modules prior to initiation of the second plug-in module [col. 14, lines 15-23].

14. As to claim 13, Young teaches wherein the first plug-in module is initiated via the step of initiating operation of plug-in modules after initiation of the second plug-in module, and wherein the second plug-in module includes a wait-state operation causing the second plug-in module to wait to provide the service offered by the second plug-in module until initiation of the first plug-in module [col. 13, lines 28-30].

15. As to claim 14, Young teaches wherein the steps of obtaining, retrieving, calculating and initiating are performed by a multi-threaded plug-in manager and wherein the step of calculating a plug-in initiation order is performed by collectively operating a respective thread for each plug-in, each thread performing the step of initiating service operation of at least one plug-in module when all services required by that plug-in module are available [col. 14, lines 60-64].

Art Unit: 2194

16. As to claims 15-28, these are computer system claims that correspond to method claims 1-14. Therefore, they are rejected for the same reason as claims 1-14 above.

17. As to claim 29, this is computer program product claim that corresponds to method claim 1. Therefore, it is rejected for the same reason as claim 1 above.

18. As to claim 30, this is computer system claim that corresponds to method claim 1. Therefore, it is rejected for the same reason as claim 1 above.

19. As to claim 31, A computer program product as in claim 29, wherein the processor further performs operations of:

- a. determining a list of plug-in services required by a software application [col. 14, lines 47-50]; and
- b. querying a set of plug-in modules to identify services provided by the set of plug-in modules [col. 13, lines 50-63].

20. As to claim 32, A computer program product as in claim 31, wherein the processor further performs operations of:

- a. in response to querying the set of plug-in modules, identifying plug-in modules not identified by the software application as being necessary but which are identified by the set of plug-in modules as

being necessary to carry out execution of an operation on behalf of the software application [col. 14, lines 43-64].

21. As to claim 33, A computer program product as in claim 32, wherein the processor further performs operations of:

- a. initiating service operation of plug-in modules on the processor according to an order other than the plug-in initiation order, such that if a third plug-in module provides a service required by a fourth plug-in module, the third plug-in module being initiated after initiation of the fourth plug-in module, the third plug-in module initiating a wait state operation causing the third plug-in module to wait to provide the service offered by the third plug-in module until instantiation of the fourth plug-in module [col. 13, lines 14-64].

22. As to claim 34, A computer program product: as in claim 32, wherein the processor initiates execution of the first plug-in module before execution of the second plug-in module, the first plug-in module initiating a wait state operation resulting in signaling to the second plug-in module, the signaling indicating that a respective service of the first plug-in module is not yet available to the second plug-in module [col. 13, lines 14-64].

23. As to claim 35, A computer program product as in claim 34, wherein the processor further performs operations of:

- a. maintaining a list of services for a set of plug-in modules currently able to provide respective services [col. 14, lines 43-64].

24. Young does not specifically teach publishing the list of services for the software application to identify instantiated plug-ins currently providing the respective services. However, this feature deems to be inherent to the Young system as line 65, col. 14-line 7, col. 15 shows the execution of the plug-in modules based on the list. The Young system would be inoperative if the list of services was not published for execution.

Response to Arguments

1. Applicant's arguments filed 06/03/2005 have been fully considered but they are not persuasive.
2. In the remarks, Applicant argued in substance that:
 - (a) provides no literal support or suggestion of retrieving a dependency list based on queries of the plug-in modules.
 - (b) provides no literal support that an instantiator passes plug-in information to any plug-in module for use by the plug-in module.
 - (c) provides no literal support associated with forwarding an identity of of each initiated plug-in service.

(d) the claimed invention recites that the “depending” plug-in is executed before executing the plug-in on which it depends. Young recites an opposite configuration.

(e) Young does not discuss a wait type of operation associated with a plug-in to receive services offered by another plug-in.

(f) Young makes no mention of initiating execution of plug-ins in a reverse order.

3. Examiner respectfully traversed Applicant’s remarks:

As to point (a), Young clearly teaches retrieving a dependency list based on queries of the plug-in modules as described in the following lines:

“a plug-in will take a long time to execute because it must wait on the results of a database query by another plug-in” [col. 13, lines 60-61].

As to point (b), the claim language does not require passing the plug-in initiation information directly from one point to another. As long as the prior art teaches “passing the initiation information for use by the plug-in module”, it meets the claim limitation.

As to point (c), Young clearly teaching “forwarding (“passing”) an identity of each initiated plug-in service”. The plug-in number (1-8) in Young is used as the identity of each initiated plug-in service. [col. 8, lines 30-38].

As to point (d), Applicant invention states that:

“the second plug-in module requires a service provided by the first plug-in module” (as claimed in claim 11 and also in Applicant amendment page 21, last paragraph “e.g. the second plug-in module that utilizes services offered by the first plug-in”).

Therefore, the second plug-in depends on the first plug-in.

Young clearly teaches that:

“plug-in N depends on plug-in M” (col. 13, lines 25-26).

Therefore, the plug-in N corresponds to Applicant’s second plug-in and the plug-in M corresponds to Applicant’s first plug-in.

The claimed language does not recite that the “depending” plug-in is executed before executing the plug-in on which it depends. Rather, the claimed language states that the “depending” (second) plug-in module wait to provide the service until initiation of the first plug-in module.

Therefore, the first plug-in (M) is executed first before executing the second plug-in (N). And, that is exactly Young teaching:

“plug-in M to be executed before it starts execution of plug-in N” (col. 13, lines 29-30).

In addition, Wait-state is not considered an execution state. According to Microsoft Computer Dictionary (Fifth Edition):

“execute – To perform an instruction”.

Wait-state does not required to perform any instruction. Therefore, the second plug-in does not executed first.

Art Unit: 2194

As to point (e), Young clearly discloses a wait type of operation associated with a plug-in to receive services offered by another plug-in as states in:

“the stage infrastructure will wait for plug-in M to be executed before it starts execution of plug-in N” (col. 13, lines 29-30).

As to point (f), this limitation is not claimed in the claim language. If Applicant believes the limitation is important feature of the invention, it should be incorporated into the claims for further consideration.

4. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Ha whose telephone number is 571-272-7220. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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